

FAA-STD-003
June 11, 1965

FEDERAL AVIATION AGENCY STANDARD

PAINT SYSTEMS FOR STRUCTURES



FOREWORD

The life-expectancy, appearance and maintenance cost of Federal Aviation Agency structures are directly affected by the quality of their protective finish against the deleterious effect of the natural environments.

Scientists' struggle to improve the quality of protective finishes is a continuing one, substantially rewarded by considerable progress. This progress demonstrates the need for keeping our design and development elements abreast of these improvements.

This standard meets this need by providing engineering guidance consistent with the state-of-the-art in the paint systems field. This standard will be properly maintained on a current basis to provide an effective engineering tool for keeping the Agency abreast of future improvements.

TABLE OF CONTENTS

| | Page |
|---|------|
| CHAPTER 1. SCOPE | 1 |
| CHAPTER 2. PURPOSE | 1 |
| CHAPTER 3. DEFINITIONS | 1 |
| CHAPTER 4. MATERIALS | 2 |
| CHAPTER 5. CLEANING AND PREPARATION OF SURFACES | 6 |
| CHAPTER 6. PAINT APPLICATION | 12 |
| CHAPTER 7. INSPECTION | 14 |
| CHAPTER 8. STORAGE AND SAFETY | 16 |
| CHAPTER 9. PAINTING SYSTEMS | 17 |
| INDEX | I-1 |

CHAPTER 1. SCOPE

1.1 Scope.- This standard establishes the requirements of the Federal Aviation Agency (FAA) for the painting of buildings, towers, antennas, substations and other ancillary structures.

CHAPTER 2. PURPOSE

2.1 Purpose.- The purpose of this standard is to properly implement a uniform paint system at all design, development and contractor levels to insure realization of the improvements on a universal basis.

CHAPTER 3. DEFINITIONS

3.1 Definitions.- The term "paint", as used herein, includes paints, enamels, stains, varnishes, sealers and other coatings, whether used as primers, intermediates, or finish coats. Paints to be used are for protective and decorative effect on surfaces. Detailed definitions concerning general terminology as used in the paint industry are referenced in Fed. Std. No. 141, Section 8.

CHAPTER 4. MATERIALS

4.1 General requirements.- Paints shall be well dispersed; shall not settle, cake or thicken adversely in the container; shall be readily dispersed with a paddle to a smooth, uniform consistency and shall have good brushing and coverage characteristics. Paints shall be delivered in sealed containers that plainly show the designated brand name, formula or specification number, batch number, color, date of manufacture, manufacturer's directions, and name of manufacturer, all of which shall be plainly legible at the time of use. Materials shall conform to the specifications shown in the painting schedule herein and to the requirements hereinafter specified. A "Supplier's Record of Batch Production Data and Test Results" shall be furnished for each batch in accordance with Federal Standard No. 141, Method 1031.2, except that batch production data may be limited to calculated lot composition, and test results may be limited to those of the following properties for which there are requirements in the material specification:

- (a) Weight per gallon
- (b) Viscosity
- (c) Fineness of grind
- (d) Drying time
- (e) Color
- (f) Gloss

Colors and tints shall conform with the designated colors, as shown in Federal Standard No. 595, or as specified in the invitation for bid. When the required quantity of a particular paint is 10 gallons or less, a proprietary brand of material similar to that specified may be used and the manufacturer's technical data required for paint furnished in larger quantities is not required.

4.2 Table I.- This table lists various types of paints that should be used on structures. The first column is a list of materials by name; the second column is a list of the corresponding Federal or Military Specifications used for procurement of the specific type of paint; the third column further identifies the materials as to their intended use, application or other pertinent information.

4.3 Referenced publications.- For a list of material specifications and other publications, see Table VI, pages 25 and 26.

TABLE I

| <u>Material</u> | <u>Specification</u> | <u>Remarks</u> |
|--|---|--|
| Aluminum Paint | TT-P-38 | Ready-mixed |
| Aluminum Paint | TT-P-320, Type II, Class B. | Field-mixed: Two pounds of paste, one pint of thinner (such as TT-T-801) max. 1 gallon of varnish. |
| | TT-V-119 Varnish TT-T-801 Turpentine | Varnish TT-V-119. Mixed to make the required aluminum paint. |
| Styrene Acrylic Fill Coat Solvent Type | TT-P-0097 Table IX | Acrylic exterior emulsion paint (TT-P-19) or exterior styrene- acrylate-solvent paint (TT-P- 0097) should be applied over the fill coat. |
| Paint, Cementitious, Powder, White and Colors | TT-P-0035 | Apply over fill coat or direct on masonry. (For interior and exterior use.) |
| Exterior Emulsion Paint Polyvinyl Acetate Acrylic | TT-P-55, Type II TT-P-19 | Only one type emulsion resin shall be used in an exterior emulsion system. |
| Exterior Oil Paint | TT-P-25 TT-P-31 TT-P-53 TT-P-59 TT-P-61 TT-P-71 TT-P-81 TT-P-102, Class A TT-P-102, Class B TT-P-103 MIL-P-52324, Class A MIL-P-52324, Class B | Under-coater-Primer-White & Tints Red and Brown Medium Chrome Yellow International Orange Black Chrome Green Lead-Zinc Medium Shades White only (Titanium-Lead-Zinc) Light Tints only (Titanium-Lead- Zinc) White & Tints, On areas ex- posed to hydrogen sulfide and similar fumes, and areas ex- posed to livestock (lead-free). White only) On exterior wood Tints only) surfaces where) blistering may) occur. |

TABLE I

| <u>Material</u> | <u>Specification</u> | <u>Remarks</u> |
|---|-------------------------------|---|
| Interior Emulsion Paint | TT-P-29, Type I | Also suitable for gypsum board sealer. |
| Vinyl-Type Wash Coat | MIL-P-15328 or MIL-I-14504 | Special surface preparation necessary. |
| Zinc Dust Containing Paint | TT-P-641 or MIL-I-26915 | For application as galvanized iron primer. |
| Exterior Stain Finish | TT-S-708 | Oil stain for wood. Color as specified. |
| Floor Wax | P-W-155 or P-W-158 | |
| Joint Cement | | As recommended by gypsum wall-board manufacturer. |
| Reinforcement Tape | | As recommended by gypsum wall-board manufacturer. |
| Anti-mildew Additive | | As recommended by paint manufacturer based on prior mildew formation in area. |
| Fire-retardant Paints Interior Exterior | MIL-C-46081 | For application to combustible surfaces and surfaces requiring heat protection from fire. |
| Liquid Glazes | TT-C-00550 | Base material either a polyester or epoxy resin as required for the particular surface. |
| Vinyl Type Primer Paints | MIL-P-15929 or MIL-P-15930 | Requires extra surface cleanliness. |

TABLE I

| <u>Material</u> | <u>Specification</u> | <u>Remarks</u> |
|------------------------------------|---|--|
| Vinyl Alkyd Type Paints | MIL-P-15932 MIL-P-15933 MIL-P-15934 MIL-P-15935 MIL-P-15936 MIL-P-16188 MIL-P-16501 MIL-P-16502 MIL-P-16738 | Only difference in specifications is color. All paints shall conform to formula 122 of the applicable MIL spec. |
| Non-Slip Coating Compound | MIL-W-5044, Type II | Rough textured for brush application. |
| Cement Emulsion Paint Filler * | Specification in process of preparation. | |
| White Portland Cement Aggregate | SS-C-192, Type I or II | Washed silica 0.5% colloidal clay max. 100% shall pass No. 20 sieve. 25-40% retained No. 70 sieve. 100% retained No. 100 sieve. |
| Acrylic Mixing Liquid | | Acrylic emulsion polymer 46-50% solids. Latex emulsion vehicle identical to exterior acrylic paint emulsion (TT-P-19). |
| Polyvinyl Acetate Mixing Liquid | | Polyvinyl acetate emulsion polymer 50-55% solids, identical with exterior polyvinyl paint resin emulsion (TT-P-55, Type II). |

* Formula - Cement Emulsion Paint Filler

| | <u>Acrylic Fill Coat</u> | <u>Polyvinyl Acetate Fill Coat</u> |
|--------------------------|--------------------------|------------------------------------|
| White Portland Cement | 16.5 pounds | 16.5 pounds |
| Aggregate | 33.5 " | 33.5 " |
| Mixing Liquid (as above) | 0.75 gallons | 0.75 gallons |
| Water | 1.00 " | 1.00 " |
| Emulsion Paint | 1.00 " (TT-P-19) | 1.00 " (TT-P-55) |

Mixing Instructions: Dry mix cement and aggregate. Add mixing liquid and 1/2 total amount of water gradually with constant mixing until a thick, smooth paste is obtained. Then add emulsion paint and mix thoroughly. Paste should be creamy. The remainder of water may be added to obtain product of proper application consistency. Do not agitate excessively as this entraps air, causing foaming. If this occurs, allow mix to set until free of air and foam.

CHAPTER 5. CLEANING AND PREPARATION OF SURFACES

5.1 General.- All hardware, hardware accessories, machined surfaces, plates, lighting fixtures and similar items in place and not intended to be painted shall be removed, masked or otherwise protected prior to surface preparation and painting. Radiators and other items shall be removed to permit the complete painting of the radiator and adjacent surfaces. Following completion of painting of each space, removed items shall be reinstalled. Such removal and reinstalling shall be done by workmen skilled in the trades involved. Exposed nails and other ferrous metal on surfaces to be painted with water-thinned paints shall be spot-primed with zinc dust, red lead, basic lead silico-chromate or zinc chromate primer. Surfaces to be painted shall be clean before applying the paint or surface treatment. Oil and grease shall be removed with clean cloths and cleaning solvent prior to mechanical cleaning, except when sandblasting is employed. Shop-coated, galvanized, or similar type metal shall be protected from corrosion before and after installation by treating corroded areas immediately upon detection. Rust spots and spots where shop coat has been abraded, shall be sanded to bright metal and recoated with primer. Cleaning and painting shall be so programmed that dust and other contaminants from the cleaning process will not fall on wet, newly-painted surfaces. Painting shall not proceed until all imperfections, cracks and holes in surfaces to be painted are repaired in an approved manner. Any painted surface marred or otherwise damaged shall be cleaned, repaired and repainted. Where it is desired to change from one paint system to another, certain precautions should be exercised. For example, previously painted surfaces subject to chalking requires one coat of TT-P-25 exterior primer before application of a latex exterior paint to insure proper adhesion.

5.2 Concrete surfaces.- Concrete surfaces to be painted shall be adequately cured and prepared by removing all efflorescence, chalk, dust, dirt, grease, oil, tar, and old weathered paint, and by roughening to remove glaze. Surface deposits of free iron rust shall be removed prior to painting. All surface voids, pores, and cracks shall be completely filled with grouting compound. The dry film shall be uniform and free from pinholes or other voids. Exterior concrete surfaces when painted shall be done so as to achieve waterproofness when exposed to wind-driven rains. (When it is desired to make above-ground concrete surfaces water-repellent without changing the appearance of the surface, a coat of transparent, colorless silicone water-repellent in accordance with SS-W-110 should be specified. This material imparts water-repellency to the surface so treated).

Note 1.- The sentences in parentheses shall be deleted when waterproofing is desired, as in concrete masonry units.

Note 2.- Water-repellency should not be confused with waterproofness. Water-repellency and waterproofness are not synonymous. Water-repellency is defined as that property of the treated surface which repels water by run-off, but does not provide imperviousness to wind-driven water. Waterproofness is impervious to all types of water penetration.

5.3 Wood surfaces (Lumber and Plywood)

5.3.1 General.- Wood surfaces except surfaces to be given natural finish shall be primed and finish-coated as specified in the painting systems herein. Wood surfaces to be painted shall be cleaned of dirt, oil, and other foreign substances with mineral spirits. Existing paint which shows signs of deterioration, loosening or chalking shall be removed. Finished surfaces exposed to view shall be made smooth by sandpapering. Exterior wood items to be painted and in contact with or built into concrete masonry or plaster shall be preservative-treated in conformance with the minimum standards of the National Woodwork Manufacturer's Association reference manual. Glazing rabbits and heads in exterior sash and doors shall be primed prior to glazing. Areas where resin has exuded from the wood shall be scraped clean and sanded prior to application of knot sealer. Recesses, cracks, joints, crevices, and nail holes in the wood shall be filled with glazing putty or plastic wood compound and sanded flush with the wood. Cracked and broken putty around window panes shall be removed and replaced with new putty. Small, dry, seasoned knots shall be surface scraped and thoroughly cleaned, and shall be given a thin coat of knot sealer conforming to Military Specification MIL-S-12935 before application of the priming coat. Wood treated with creosote or other preservatives in a non-volatile solvent such as fuel oil is unsuitable for painting. Wood treated with water-borne preservatives and thoroughly redried may be painted; however, such treatment does not provide water-repellency which will prevent storm water from penetrating joints in the structure. Unless otherwise authorized, painting shall proceed only when the moisture content of the wood does not exceed 12 percent as measured by a moisture meter. Painting of exterior wood or hardboard siding shall proceed, insofar as practical, only after interior plaster and masonry work have dried.

5.3.2 Exterior wood surfaces to receive natural finish.- Exterior wood surfaces to receive natural finish shall be given a single coat of finish conforming to Federal Specification TT-S-708. On smooth surfaces such as planed face of bevel siding, the finish shall be applied at a spreading rate of 400 to 500 square feet per gallon. On rough surfaces such as unplaned or scarred face of bevel siding, the finish shall be spread at the rate of 200 to 250 square feet per gallon. To avoid brush marks, the coating shall be finished off by brushing with the grain of the wood for the full length of the lap of siding being painted without stopping for more than five minutes. The finish shall also be stirred frequently during application to maintain uniform suspension of the pigments.

5.3.3 Interior wood surfaces.- Interior wood surfaces to receive stained or natural finish, except as hereinafter specified, shall be properly prepared to the approved shade and lightly sanded. Oak and other open-grain wood shall be given the same treatment and, in addition, shall be given a coat of paste wood filler not less than 8 hours after the application of stain. Excess filler shall be removed and the surface then sanded smooth. Each varnish coat shall be lightly sanded prior to application of subsequent coat.

5.3.4 Interior wood floors.- Interior wood floors shall be sanded as necessary. Oak or similar open-grain wood shall be filled with wood filler, and excess filler removed.

5.4 Ferrous surfaces.- Ferrous surfaces, interior and exterior, that have not been shop-coated shall be solvent-cleaned to remove oil and grease, then mechanically cleaned by power wire-brushing or blast cleaning to remove loose rust, loose mill-scale and other foreign substances. Blast cleaning shall conform to Steel Structures Painting Council Specification SSPC-SP-6 for commercial sandblasting (Figure B SA 1 of SSPC-VIS-I-63T, Pictorial Surface Preparation Standards for Painting Steel Structures). Power tool cleaning shall conform to Steel Structures Painting Council Specification SSPC-SP-3. Cleaning shall be scheduled to permit priming of the cleaned areas before the formation of any corrosion. In the event the cleaned surfaces are left unprimed until the formation of corrosion, the affected areas shall be cleaned again. Minor amounts of residual rust that cannot be removed except by thorough blast-cleaning, and tight mill-scale that cannot be removed by applying a sharp knife to any edge, will be permitted. After cleaning, one coat of paint conforming to Federal Specification TT-P-86, Type I or Type II, TT-P-615, Type I or Type II, or TT-P-645 shall be applied to a minimum dry film thickness of 1 mil. Shop-coated metal shall be protected from corrosion before and after installation by treating corroded areas immediately upon detection. Rust spots and spots where shop coat has been abraded, shall be sanded to bright metal and recoated with a primer.

5.4.1 Fabricated and Assembled Items.- Fabricated and assembled items which are normally cleaned and primed in accordance with the manufacturer's standard practice may be exempted from the requirements for surface preparation and first coat specified in Chapter 9 or on the drawings upon specific request by the contractor and approval by the Contracting Officer. Similarly, items which are normally painted with a complete coating system in accordance with the manufacturer's standard practice may be exempted entirely from the surface preparation and painting requirements herein, provided the finish coat is of acceptable color and quality and is touched up as necessary in the field. Requests for exemption shall be accompanied by a description of the manufacturer's standard coating, including surface preparation, type of paint, dry film thickness and whether baked or air-dried.

5.5 Nonferrous metal surfaces.- All nonferrous metal surfaces, such as aluminum alloy (except anodized), copper, zinc-copper-alloy, and zinc-coated surfaces, including nonferrous surfaces not to be painted, shall be solvent-cleaned as necessary to remove all oil, grease or other foreign substances. After cleaning, all nonferrous surfaces to be painted shall be treated with vinyl type wash coat as hereinafter specified. Painting to protect aluminum from contact with dissimilar materials should be specified under the section of the specification covering the specific item. All zinc-coated metal shall be protected from corrosion before and after installation by treating cut, scarred, corroded, or abraded spots immediately upon detection; such spots shall be thoroughly wire-brushed, cleaned and smoothed, treated with vinyl wash coat or primed with zinc dust or zinc dust-zinc oxide metal primer, and then painted when necessary with a finish color coating which will match the color of adjoining surface. Exterior galvanized and zinc-copper-alloy surfaces, exterior copper surface and exterior aluminum-alloy surfaces will be

painted only when corrosion conditions are such as to warrant a protective coating system or when the unpainted substrate will present a poor appearance.

5.6 Wallboard

5.6.1 Surface defects.- Prior to painting, all joints, cracks, holes and other surface defects shall be repaired with patching plaster or spackling compound, filled out flush and smooth, and sanded.

5.6.2 Nailing depressions.- Nailing depressions shall be filled with 3 coats of joint cement or putty, and each coating shall be allowed to dry before the succeeding coating or treatment is applied. Where necessary, the last coating shall be sanded with a 2/0 sandpaper so as to have a smooth finish flush with the face of the wallboard.

5.7 Plaster surfaces.- Plaster surfaces shall be dry, clean and free from grit, loose paint, loose plaster, and surface irregularities before paint is applied. When oil base or oleo-resin base paint is applied, the instrument-measured moisture shall not exceed 8%.

5.8 Asbestos-cement-board and hardboard (Masonite) surfaces.- Asbestos-cement-board and hardboard (Masonite) surfaces shall be dry and clean prior to application of the specified first-coat material. Oil, grease or rust stains shall be carefully removed by the use of suitable solvents, such as mineral spirits in accordance with TT-T-291. Wire brushing will not be permitted. After the first coating has become dry, and prior to application of finish coats, touch-up coats shall be applied to all suction spots.

5.9 Mastic-type surfaces.- Mastic-type surfaces to be painted shall be thoroughly cleaned and all foreign matter shall be removed.

5.10 Fabric covering or exposed insulation.- Fabric covering or exposed insulation on pipes, ducts, tanks and other equipment shall be given a coat of non-penetrating size to which subsequent paint coats will permanently adhere. The size shall be applied in such a manner as to completely seal the surface. A sufficient amount of fungicidal agent shall be added to the size and each finish coat of paint thereafter to render the fabric mildew-proof. The fungicidal agent shall be an approved type that will not adversely affect the color, texture or durability of the paint or size, such as phenyl mercuric acetate, phenyl mercuric oleate or phenyl mercuric succinate.

5.11 Obstruction marking.- Structures determined to be hazards to the safe operation of aircraft shall be painted with an exterior aviation surface orange paint and an exterior white paint, specified in Table I, in a configuration shown in FAA publication, "Obstruction Marking and Lighting" and on FAA Drawing D-5480.

5.12 Combustible surfaces.- Fire-retardant paints shall be applied to interior or exterior surfaces that are highly combustible and where appreciable amounts are used, such as low density fiberboard, untreated plywood, etc. Fire-retardant paints can be used on structural steel or other metal.

5.13 Glazed surfaces.- Glazed surfaces may be achieved by the use of epoxy or polyester type liquid glaze coating systems. Job-applied liquid glaze based on polyester resin with curing agent may be used over masonry or concrete. Job-applied liquid glaze based on epoxy resin with curing agent may be used on masonry, concrete and Portland cement plastic. Liquid glazes may be used on walls and ceilings, in hallways, showers, corridors and drying rooms, dishwashing rooms and sculleries, and in similar very wet areas. When liquid glazes are used on ceilings, walls or wainscots, Portland cement plastic will be omitted from masonry and concrete.

5.14 Interior ferrous surfaces of water storage tanks.- Interior ferrous surfaces of water storage tanks shall be blast-cleaned to commercial metal grade in accordance with Steel Structures Painting Council Specification SSPC-SP-6 (Figure B SA 1 of SSPC-VIS-I-63T, Pictorial Surface Preparation Standards for Painting Steel Structures).

CHAPTER 6. PAINT APPLICATION

6.1 General.- Paint shall be applied uniformly in the proper consistency by skilled painters only, using appropriate methods of application as approved by the Government representative. To prevent formation of skins and loss of volatile solvent, paint containers shall be covered when delays in application are encountered. Adjacent work and materials shall be protected by ample dry cloths or other suitable coverings. Paint shall be thoroughly mixed immediately before use and at frequent intervals during application. The meeting line between colors shall be straight and sharply defined, with no blending, running or gaps. All coats of paint shall be free from sags, wrinkles, runs, holidays, smears, dirt and colors other than those specified. Paint drops and oversprays can be removed before dry. At times, particularly over windows and glazed surfaces, it is more economical to remove oversprays and drips with a sharp edged tool such as a razor blade after they have dried. Of course, when this procedure would cause damage to the substrate, it cannot be used. The hiding shall be complete and each coat shall be so applied as to produce a film of uniform thickness. Special attention shall be given to insure that edges, corners, crevices, welds and rivets receive a film thickness equivalent to that of adjacent painted surfaces. Respirators shall be worn by persons engaged or assisting in spray painting. Metal or wood surfaces adjacent to surfaces to receive water-thinned paints shall be primed and/or touched up prior to application of water-thinned paints.

6.2 Paint properties, storage, mixing and thinning.- At time of application, paint shall show no signs of deterioration, and shall provide a satisfactory film and a smooth, even surface. Emulsion paints shall be protected from exposure to cold weather by storing in shelters so as to prevent freezing of the paint. Paint shall be thoroughly stirred, strained and kept at a uniform consistency during application. Paints of different manufacturers or different type shall not be mixed together. Where approved by the Contracting Officer as necessary to suit conditions of surface, temperature, weather, and method of application, the packaged paint may be thinned immediately prior to application in accordance with the manufacturer's directions, but not in excess of 1 pint of suitable thinner per gallon. Paint shall not be thinned unless approval for thinning is given by the Contracting Officer. The use of thinning for any reason shall not relieve the contractor from obtaining complete hiding.

6.3 Atmospheric conditions.- Paint other than water-thinned coatings shall be applied only to surfaces that are completely free from surface moisture as determined by sight or touch or within the moisture limits specified when determined by a moisture meter. In no case shall paint be applied to surfaces upon which there is visible frost or ice. While painting is being done, the temperature of the surface to be painted and of the atmosphere in contact therewith shall be maintained at a minimum of 45°F. and a maximum of 95°F. During periods of inclement weather, painting may be continued by inclosing the surfaces with temporary shelters and applying artificial heat, provided the temperature requirements prescribed above are maintained throughout the drying period.

6.4 Time between surface preparation and painting.- Surfaces that have been cleaned, pretreated, and/or otherwise prepared for painting shall be given a coat of the specified first-coat material as soon as practicable after such preparation has been completed but in any event prior to any deterioration of the prepared surface.

6.4.1 Coating progress.- Sufficient time shall elapse between successive coatings to permit proper drying. This period shall be modified as necessary to suit adverse weather conditions. Oil base or oleo-resinous type paints shall be considered dry for recoating when it feels firm, does not deform or feel sticky under moderate pressure of the thumb, and the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

6.4.2 Color of undercoat.- The color of the undercoat shall vary sufficiently from the color of the next coat to enable the visual determination of complete coverage.

6.5 Method of application

6.5.1 Metal.- Vinyl type wash coat may be applied by brush, spray or swab. Other first coats shall be applied by brush or spray and subsequent coats may be applied by brush, roller or spray. First coats on items that have been shop-primed or field-primed may be applied by brush, roller or spray.

6.5.2 Concrete and masonry surfaces.- Filler coat shall be applied by brush. Surfaces shall be dampened when emulsion fill coat or cementitious paint is applied as a first coat. Other first coats shall be applied by brush or spray. Subsequent coats may be applied by brush, roller, or spray.

6.5.3 Other surfaces.- First coats shall be applied by brush or spray, and subsequent coats may be applied by brush, roller, or spray.

6.5.4 Application of interior emulsion paint.- First coats of interior emulsion paint shall be at such a rate (between 300 and 500 square feet per gallon) as will affect sealing of the surface. The second coat of interior emulsion paint shall be applied at a maximum spreading rate of 450 square feet per gallon. Emulsion paint to be sprayed shall be applied at approximately the same rate as that for brushing or rolling.

6.5.5 Special requirements.- Rollers for applying enamels shall have a short nap. Brushes used for emulsion paint shall be soaked in water for a period of 15 minutes prior to brushing.

6.5.6 Thinning of paint.- If thinning of paint is necessary for adequate spray consistency, not more than the manufacturer's stated recommendation for additional thinner shall be used. (See 6.2)

6.5.7 Cement-emulsion paint filler.- Scrub the filler into the surface with a stiff bristle brush having Tampico or Palmyra bristles not longer than 2½ inches. The dry coating shall be essentially uniform and free from pinholes, pores, cracks, or other voids. The material shall not be applied over caulking compound.

6.5.8 Exterior emulsion paint.- At least 24 hours shall elapse before applying exterior emulsion paint over cement emulsion paint filler coat. When the ambient exterior temperature is in excess of 85°F., cement emulsion paint surfaces shall be lightly dampened with a fog spray of potable water immediately prior to application of the subsequent emulsion paint coat.

6.5.9 Vinyl type wash coat.- The vinyl type wash coat shall be applied at an appropriate rate to give a dry film thickness of 0.3 mils minimum and 0.5 mils maximum. The wash coat shall be permitted to dry for at least 30 minutes.

6.5.10 Natural wood finishes.- Surfaces shall be prepared as hereinafter specified. The surface shall be adequately protected and dust-free before and after each application of material specified below.

6.5.11 Interior wood floors.- Interior wood floors shall be finished with a varnish-type surface sealer and then waxed. The sealer shall be applied in accordance with the manufacturer's recommendations and in such manner as to provide thorough penetration and sealing. A period of 24 hours shall be allowed between coats and each coat shall be power-buffed with steel wool. The last coat of sealer shall be allowed to dry for a period of seven days or more before the specified coat of wax is applied. Each varnish coat shall be lightly sanded prior to application of subsequent coat.

6.5.12 Interior wood surfaces other than floors.- These type surfaces shall receive coats of varnish as specified. The coats shall be lightly sanded between coats. The last coat shall be rubbed with FFF pumice stone and water followed by a rubbing with light mineral oil to an approved smooth satin finish.

6.5.13 Liquid glaze coating system.- The liquid glaze coatings shall be applied in strict accordance with the manufacturer's printed directions for surface preparation, mixing, application, coverage and curing.

6.5.14 Cementitious paint.- The first coat of paint shall be applied with a stiff fiber bristle brush. Before applying the paint, the surface must be thoroughly wet to control surface suction and to provide a reserve of moisture to aid in the proper curing (hardening) of the paint. Cementitious paints are made ready for use by thoroughly mixing the paint powder with water in the proper proportions as recommended by the manufacturer. The mixed paint shall have the consistency of rich cream except that a slightly thinner consistency is recommended for the second coat. The paint shall be applied in two coats of the same color and not less than 24 hours shall be allowed between coats. (See paragraph 5.2 and notes 1 and 2.)

6.5.15 Clean-up.- Upon completion of painting, the painting contractor shall remove all paint spots from floors, glass and other surfaces, all rubbish, discarded materials, surplus materials, scaffolds, etc., caused by his work and leave the area clean and orderly.

CHAPTER 7. INSPECTION

7.1 General. - No paint shall be used until inspected and approved by the Government representative. Paint shall not be applied to surface until such surfaces are approved by the Government representative. Additional coats of paint shall not be applied unless they are likewise inspected and approved. The contractor shall keep the Government representative fully informed as to his proposed painting schedule to permit adequate time for inspection of materials and surface conditions. Paints shall be applied to produce an adequate dry film thickness as specified in the tables.

7.2 Unsound surfaces. - The painting contractor shall inform the Government representative of any unsound conditions found on existing jobs, such as rotting, peeling, blistering, alligatoring, checking, cracking, curling or other paint failure, and the cause of said condition shall be determined and corrected before painting.

7.3 Instruments for use by field personnel. -

7.3.1 Moisture meter. - Moisture in substrates shall be determined by the Weston Midget Moisture Meter. This meter measures the electrical resistance across a double set of contacts which are penetrating the wood. The one-fourth (1/4) inch needle contacts are pressed or driven full length into the material to be tested. A piece of wood or plastic will vary in moisture content. The reading obtained by the Weston Moisture Meter will be an average of a layer of the wood and not a surface moisture reading. However, if the surface of the material being tested is extremely wet, as after a rain, the meter reading will be affected. Good contact between the needle surface and the material being tested is important. If the needles are loose in the holes, a resistance to the flow of current is set up between the needle surface and the adjacent material. Poor needle contact will produce a lower than actual moisture reading.

7.3.1.1 Moisture Meter Accuracy. - The Weston Moisture Meter reads directly in percent moisture. The dial reading will not be corrected for all woods or all wood surface temperatures. For every temperature change of approximately 20° above or below 80°F., one percent must be added or subtracted to obtain a more accurate reading.

7.3.2 Moisture Measurement - Wood. - The desired moisture content of the wood to be painted varies from 5 to 12 percent, depending on its use. In this range, the meter reading can vary ten percent or more from the true moisture content. For accurate results the conversion table provided with the meter should be used.

7.3.3 Moisture Measurement - Plaster.- Plaster should not be painted if its moisture content is above 8 percent. The Weston Moisture Meter is calibrated to indicate if the moisture content is above or below 6 percent. Old plaster should be tested before the cracks are repaired so the damage done by the needle contacts can be repaired at the same time. New plaster can be tested using flat electrodes in place of the needle contacts.

7.3.4 Thickness Gages.- Dry film thickness gages are available either as a self-contained pocket-size unit or a unit operated on 115-volt alternating current. The instruments are similar in operation and both are accurate; however, the larger size and the requirement for a source of electrical current make the latter type inconvenient for field use. Also, if the alternating current gage is connected to a line having abnormal voltage fluctuations, the voltage must be stabilized by means of a constant-voltage transformer if accurate results are to be obtained. Several self-contained gages are available, covering various ranges with differing degrees of reported accuracy. Very good results have been obtained in measuring coatings on ferrous metals with the self-contained dry film thickness gage. This instrument is available in a variety of thickness ranges. It is lightweight, easy to use in hard-to-reach areas. It can be used in any location without the need for bringing in an outside source of electricity. It does not injure the coating in any way and its reliability is accepted by contractors. While these gages are available in several ranges, the 0- to 20-mil instrument is best suited for checking most of the coatings used for FAA structures.

CHAPTER 8. STORAGE AND SAFETY

8.1 Storage.- All tools and materials used by the painting contractor on the job shall be stored in a single, ventilated place, approved by the Government representative. Such storage place shall be kept neat and clean and all damage thereto, or to its surroundings shall be repaired. Any used rags, waste, empty containers, etc. must be removed from the area every night, and every precaution taken to avoid the danger of fire.

8.2 Safety.- All precautions shall be taken to prevent the possibility of fire in areas being painted. There should be adequate ventilation for the removal of toxic fumes. Where ventilation is insufficient, face masks, and/or respirators supplied with clean air, should be used. Food should not be kept or eaten in any area exposed to dust from sandpapering or fumes from paint thinners. Paint with toxic ingredients shall not be used where consumption by humans or animals is a possibility. Adequate illumination should be provided to assure complete coverage and for the safety of painters.

CHAPTER 9. PAINT SYSTEMS

9.1 General.- Surfaces listed in Tables II, III, IV and V, shall receive the surface preparation, paints and number of coats prescribed. Methods of surface preparation, cleaning methods and pretreatment of surfaces prior to painting shall be accomplished in accordance with the detailed requirements as set forth in Chapter 5 for each particular surface.

9.2 Recommended paint systems.- The recommended paint systems developed are as follows:

| | | |
|---|-----------|----------------|
| Paint Systems for Steel Structures in Order of Corrosiveness ----- | Table II | Page 18 |
| Paint Systems for Building Interiors ----- | Table III | Page 19 to 21 |
| Paint Systems for Building Exteriors ----- | Table IV | Pages 22 to 23 |
| Paint Systems for Miscellaneous Structures and Purposes ----- | Table V | Page 24 |

9.3 How to use the paint system tables.- This Standard can readily be used to extract painting data by excerpts of desired sentences and/or paragraphs, or by calling for a paint system in accordance with Tables II to V. To select and specify a paint system, the following method is recommended:

1. Select the table in accordance with the type of surface which must be painted and the exposure/environmental service condition.
2. Select the system number, bearing in mind the probable age of the structure vs. desirable age, cost to paint vs. corrosive atmospheric conditions and the effect that paint deterioration will have on the structural strength of the structure.
3. The following note can be used on the customary place on the drawing or specification: "All ferrous material shall be painted in accordance with Paint Systems ST-3 of Paint Standard FAA-STD-003."

TABLE II: PAINT SYSTEMS FOR STEEL STRUCTURES

| System Number | Surface | Surface Preparation and Pretreatment | Primer | Intermediate Coat | Finish Coat |
|---------------|---|---|--|--|----------------------------------|
| ST-1 | Subject to atmospheric exposure | As previously specified (See 5.4) | TT-P-86, Type II, or TT-P-615, Type II or TT-P-645 | Exterior oil paint | Exterior oil paint |
| ST-2 | Subject to high humidity, condensation or occasional fresh water immersion | As previously specified (See 5.4) | TT-P-86, Type III or IV, or TT-P-615, Type III or IV | TT-P-86, Type III or IV, or TT-P-615, Type III or IV | MIL-P-52324 |
| ST-3 | Subject to fresh water immersion or spray, or atmospheres around highly industrial cities | Near-white metal blast cleaning (See 5.4) | MIL-P-15930 or MIL-P-15929 | Vinyl Alkyd Paint, white or gray | Vinyl Alkyd Paint, white or gray |
| ST-4 | Subject to salt water spray or immersion | Near-white metal blast cleaning (See 5.4) | MIL-P-15930 or MIL-P-15929 | Vinyl Alkyd Paint, white or gray | Vinyl Alkyd Paint, white or gray |

Notes

System ST-1
and ST-2.-

Systems shall be applied to an average dry film thickness of 5.0 mils and the thickness at any point shall be not less than 4.5 mils. One mil minimum shall be built up with the primer.

System ST-3.-

This vinyl system shall be spray applied to an average dry film thickness of 5.0 mils and the thickness at any point shall be not less than 4.5 mils. One and one-half mils minimum shall be built up with the primer.

System ST-4.-

This vinyl system shall be spray applied to an average dry film thickness of 7.5 mils and the thickness at any point shall be not less than 6 mils. Three and one-half mils minimum shall be built up with the primer.

TABLE III: PAINT SYSTEMS FOR BUILDING INTERIORS

| System Number | Surface | Surface Preparation and Pretreatment | Primer Coat | Intermediate Coat | Finish Coat |
|---------------|---|--|---|--|--|
| BI-1 | Interior concrete, masonry units, concrete, structural clay tile, gypsum board, asbestos cement board, composition fiberboard, unless otherwise specified | As previously specified for each type of surface (See 5.2) | TT-P-29 or TT-P-30 | - - | TT-P-29 or TT-P-30 |
| BI-2 | Interior plaster, unless otherwise specified | As previously specified (See 5.7) | TT-P-56 or TT-P-29 | - - | TT-P-30 or TT-P-29 |
| BI-3 | Interior concrete masonry unit walls in food preparation, food-serving, shower, latrine and laundry areas | Remove foreign matter, loose particles and efflorescence. Thoroughly dampen the wall (See 5.2) | Cement emulsion filler | TT-P-29 or TT-P-30 | One coat TT-E-543 and one coat TT-E-506 or TT-E-508 |
| BI-4 | Interior walls and ceilings in food preparation, food serving, shower, latrine and laundry areas, except concrete masonry units and plaster | As previously specified for each surface (See 6.5.4 and other specific surface reference) | TT-P-29 or TT-P-56 | TT-E-543 - | TT-E-508 or TT-E-506 |
| BI-5 | Interior gypsum board in food serving, latrine and laundry areas | As previously specified for each surface (See 5.2) | TT-P-29 | TT-E-543 | TT-E-506 or TT-E-508 |
| BI-6 | Acoustical tile | Remove foreign matter (See 6.5.4) | TT-P-29 | - | TT-P-29 |
| BI-7 | Interior ferrous surfaces | As previously specified (See 5.4) | TT-P-86 or TT-P-615 or TT-P-645 | TT-P-30 TT-E-543 TT-E-543 Aluminum Paint | TT-P-30 TT-E-508 TT-E-506 Aluminum Paint |

Note System BI-7 - Paint system shall be applied to a minimum dry film thickness of 3.5 mils. The primer shall have a dry film thickness of 1.0 mil minimum.

TABLE III (continued)

| System Number | Surface | Surface Preparation and Pretreatment | Primer Coat | Intermediate Coat | Finish Coat |
|---------------|---|--|---------------------|-------------------|---------------------------------|
| BI-8 | Wood and metal (other than ferrous) interior trim, doors and windows, unless otherwise specified | As previously specified for each surface (See 5.3 for wood and 5.5 for metal) | TT-E-543 | - | TT-E-508 |
| BI-9 | Interior wood and metal (other than ferrous) surfaces in food preparation, food serving, shower, latrine and laundry spaces | As previously specified for each surface (See 5.3 for wood and 5.4 for metal) | TT-E-543 | - | TT-E-506 |
| BI-10 | Interior hardboard surfaces | As previously specified (See 5.8) | TT-E-543 | - | TT-E-508 |
| BI-11 | Wall bases | As previously specified for each type of surface (See Chapter 5 for applicable surface) | TT-E-489 Class A | - | TT-E-489 Class A |
| BI-12 | Interior wood surfaces (other than floors), unless otherwise specified | Remove foreign matter, sandpaper as required (See 5.3.3) | TT-E-487 | - | TT-P-30 TT-E-508 TT-E-506 |
| BI-13 | Interior wood floors to be painted | Solvent cleaning, scraping, sealing, and sandpapering (See 5.3.4) | TT-E-487 | - | TT-E-487 |
| BI-14 | Interior wood surfaces to receive stain or natural finish | Clean and sandpaper as required. Stain with TT-S-711 for shade as necessary. Fill and seal as required (See 5.3.2) | TT-V-121 | TT-V-121 | TT-V-121 |

TABLE III (continued)

| System Number | Surface | Surface Preparation and Pretreatment | Primer Coat | Intermediate Coat | Finish Coat |
|---------------|--|--|-------------------------|-------------------|-----------------------------|
| BI-15 | Interior wood floors to receive stain or natural finish | Clean, sandpaper, and fill as required (See 5.3.3) | TT-S-176 | TT-S-176 | P-W-158, Type II or P-W-155 |
| BI-16 | Interior concrete floors | Allow to age 90 days, minimum (See 5.2) | TT-P-91 | - | TT-P-91 |
| BI-17 | Mastic type surfaces, concrete and plaster, in refrigerated spaces | As previously specified for each type of surface (See 5.9) | Exterior emulsion paint | - | Exterior emulsion paint |

TABLE IV: PAINT SYSTEMS FOR BUILDING EXTERIORS

| System Number | Surface | Surface Preparation and Pretreatment | Primer Coat | Intermediate Coat | Finish Coat |
|---------------|---|---|-------------------------|---------------------------------------|---------------------------------------|
| BE-1 | Exterior poured concrete and stucco surfaces | Remove foreign matter, efflorescence and loose particles, and roughen glazed surfaces (See 5.2) | Exterior emulsion paint | - | Exterior emulsion paint |
| BE-2 | Exterior concrete masonry units | Remove foreign matter, loose particles, efflorescence from units (See 5.2) | TT-P-0035 | - | TT-P-0035 |
| BE-3 | Exterior structural clay tile | Remove foreign matter, chalk (See 5.2) | Exterior emulsion paint | - | Exterior emulsion paint |
| BE-4 | Exterior wood surfaces not otherwise specified | Solvent cleaning, scraping, sealing and sandpapering (See 5.3.1) | TT-P-25 | Ext. oil paint | Ext. oil paint |
| | | | TT-P-25 | Ext. emulsion paint | Ext. emulsion paint |
| BE-5 | Exterior wood surfaces as follows: steps, platforms, floors of open porches | Solvent cleaning, scraping, sealing and sandpapering (See 5.3.1) | TT-E-487 | - | TT-E-487 |
| BE-6 | Exterior hardboard surfaces | As previously specified for wood surfaces (See 5.3.1) | TT-P-25 | - | Ext. emulsion paint or Ext. oil paint |
| BE-7 | Exterior asbestos cement surfaces | Clean, remove loose stains and glazed areas (See 5.8) | TT-P-25 | Ext. emulsion paint or Ext. oil paint | Ext. emulsion paint or Ext. oil paint |

TABLE IV (continued)

| System Number | Surface | Surface Preparation and Pretreatment | Primer Coat | Intermediate Coat | Finish Coat |
|---------------|---|--------------------------------------|---|-------------------|---|
| BE-8 | Exterior galvanized and zinc-copper surfaces | As previously specified (See 5.5) | TT-P-641, Type II MIL-P-26915, Type I Class A | - - | Ext. oil paint TT-P-641, Type II; Ext. oil paint; MIL-P-26915, Class A Type I |
| BE-9 | Exterior aluminum and aluminum-alloy surfaces | As previously specified (See 5.5) | TT-P-645 TT-P-38 | TT-E-489, Class A | TT-E-489, Class A TT-P-38 |
| BE-10 | Exterior copper surfaces | As previously specified (See 5.5) | TT-P-645 | - | TT-E-489, Class A |
| BE-11 | Exposed exterior caulking compound | Clean surface (See 5.5) | - | - | TT-P-38 |

Notes System BE-1.-Total film thickness: 4.5 mils (Dry Film)

System BE-2.-For resistance to max.
100 MPH wind driven rains: 6.0 mils min.

System BE-3.-Total film thickness: 4.5 mils (Dry Film)

System BE-4.-Total film thickness: 4.5 mils
Minimum at any one point: 4.0 "

System BE-5.-Total film thickness: 3.5 mils
Minimum at any one point: 3.0 "

Systems

BE-8.-{ Total film thickness: 3.0 mils
BE-9.-{ Minimum at any one point: 2.5 "
BE-10.-{

TABLE V: PAINT SYSTEMS FOR MISCELLANEOUS STRUCTURES AND PURPOSES

| System Number | Surface | Surface Preparation and Pretreatment | Primer Coat | Intermediate Coat | Finish Coat |
|---------------|--|---|-------------------|-------------------|-------------------|
| M-1 | Steel Works (Ferrous) | Sandblast or pickle for new construction; for re-painting, wash and remove oil and loose particles. Power tool clean bad areas. Touch up with wash coat primer. (See 5.4) | Vinyl alkyd | Vinyl alkyd | Vinyl alkyd |
| M-2 | Plastic antenna shelters | Remove foreign matters (see Chapter 5) | TT-E-489, Class A | - | TT-E-489, Class A |
| M-3 | Walkways to be rendered non-slip | As previously specified for each surface (see Chapter 5) | MIL-M-5044 | - | MIL-M-5044 |
| M-4 | Interior ferrous surfaces of water storage tanks | As previously specified (see 5.14) | MIL-E-15145 | MIL-E-15145 | MIL-E-15145 |
| M-5 | All Surfaces Requiring Fire Retardant Coatings (Includes Metallic and Non-Metallic Surfaces) | See Appropriate Paragraphs, Chapter 5 | MIL-C-46081 | - | MIL-C-46081 |

Notes

System M-1.- This system shall be applied to an average dry film thickness of 4.5 mils and the thickness at any point shall be not less than 4 mils.

System M-3.- Slip-resistant coatings shall be brush-applied to an average dry film thickness of 4.5 mils and the thickness at any point shall be not less than 4 mils.

System M-4.- This system shall be applied to an average dry film thickness of 5 mils and the thickness at any point shall be not less than 4.5 mils.

TABLE VI: REFERENCE PUBLICATIONS

Federal Specifications

| | | | |
|------------|---|----------|--|
| P-W-155 | Wax, Floor, Water-Emulsion, Slip-Resistant | TT-P-53 | Paint, Ready-Mixed, Outside, Medium Chrome Yellow |
| P-W-158 | Wax, General Purpose, Solvent type | TT-P-55 | Paint, Polyvinyl Acetate Emulsion, Exterior |
| SS-C-192 | Cement, Portland | | |
| SS-W-110 | Water-Repellent, Colorless, Silicone Base | | |
| TT-C-00550 | Coating System, Glaze, Interior, for Masonry Surfaces | TT-P-56 | Primer Coating (Primer-Sealer), Pigmented Oil, Plaster and Wallboard |
| TT-E-487 | Enamel, Floor and Deck | TT-P-59 | Paint; Ready-Mixed, International Orange |
| TT-E-489 | Enamel, Alkyd, Gloss (for Exterior and Interior Surfaces) | TT-P-61 | Paint, Exterior, Black, Ready-Mixed |
| TT-E-496 | Enamel; Heat-Resistant (400°F.). Black | TT-P-71 | Paint, Exterior, Chrome-Green Ready-Mixed |
| TT-E-506 | Enamel; Tints and White | TT-P-81 | Paint, Oil; Ready-Mixed, Exterior Medium Shades on Lead-Zinc Base |
| TT-E-508 | Enamel; Interior, Semi-Gloss, Tints and White | TT-P-86 | Paint, Red-Lead-Base, Ready-Mixed |
| TT-E-543 | Enamel Undercoat, Interior, Tints and White | TT-P-91 | Paint, Rubber-Base, for Concrete Floors |
| TT-P-19 | Paint, Acrylic Emulsion, Exterior | TT-P-97 | Paint, Styrene-Butadiene and Styrene- Acrylate, Solvent-Type (for Exterior Masonry) |
| TT-P-25 | Primer, Paint, Exterior (Undercoat for Wood, Ready-Mixed, White and Tints) | TT-P-102 | Paint, Oil; Titanium-Lead-Zinc and Oil, Exterior, Ready-Mixed, White and Light Tints |
| TT-P-29 | Paint, Latex Base, Interior, Flat White and Tints | TT-P-103 | Paint (Titanium-Zinc and Oil, Exterior Fume-Resistant, Ready-Mixed, White) |
| TT-P-30 | Paint, Alkyd, Interior, Flat, White and Tints | TT-P-320 | Pigment, Aluminum; Powder and Paste, for Paint |
| TT-P-31 | Paint, Oil, Iron-Oxide, Ready- Mixed, Red and Brown | TT-P-615 | Primer Coating; Basic Lead Silico Chromate, Ready-Mixed |
| TT-P-0035 | Paint, Cementitious, Powder, White and Color (For interior and exterior use.) | TT-P-641 | Primer, Paint: Zinc Dust-Zinc Oxide (for Galvanized Surfaces) |
| TT-P-38 | Paint, Aluminum, Ready-Mixed | TT-P-645 | Primer, Paint; Zinc-Chromate, Alkyd type |

TABLE VI (continued)

Federal Specifications

TT-S-176 Sealer, Surface, Varnish Type,
Floor, Wood or Cork
TT-S-708 Stain, Oil; Semi-Transparent, Wood,
Exterior
TT-S-711 Stain, Oil Type, Wood, Interior
TT-T-291 Thinner; Paint, Volatile. Mineral
Spirits (Petroleum Spirits)
TT-T-801 Turpentine, Gum Spirits, Stain Dis-
tilled Sulfate Woods, and
Distinctly Distilled
TT-V-119 Varnish, Spar, Phenolic-Resin
TT-V-121 Varnish, Spar, Water-Resisting

MIL-P-15936 Enamel, Exterior, Gray No. 27, Vinyl-
Alkyd (Formula 122-27)
MIL-P-16188 Enamel, Exterior, Gray No. 17, Vinyl-
Alkyd (Formula 122-17)
MIL-P-16501 Enamel, Exterior, Gray No. 37, Vinyl-
Alkyd (Formula 122-37)
MIL-P-16502 Enamel, Exterior, Gray No. 46, Vinyl-
Alkyd (Formula 122-46)
MIL-P-16738 Enamel, Exterior, White, Vinyl-Alkyd
(Formula 122-82)
MIL-P-26915 Primer, Coating, Zinc Dust Pigmented
for Steel Surfaces
MIL-C-46081 Coating Compound, Thermal Insulating
(Intumescent)
MIL-P-52324 Paint, Alkyd, Oil, Exterior, Tints
and Colors

Military Specifications

MIL-M-5044 Walkway, Coating and Matting,
Nonslip, Aircraft
MIL-S-12935 Sealer, Surface, Knot
MIL-P-14504 Primer, Coating, Pretreatment,
One-Package Wash Primer (For
Steel, Aluminum, and Magnesium)
MIL-E-15145 Enamel, Zinc Dust Pigment, Fresh
Water Tank Protective, Formula
No. 102
MIL-P-15328 Primer Pretreatment (Formula 117
for Metals)
MIL-P-15929 Formula 119 Red Lead Vinyl Primer
MIL-P-15930 Formula 120 Zinc Chromate Vinyl
Primer
MIL-P-15932 Enamel, Outside, Gloss Black,
Vinyl-Alkyd (Formula 122-1)
MIL-P-15933 Enamel, Outside, Dull Black,
Vinyl-Alkyd (Formula 122-3)
MIL-P-15934 Enamel, Exterior, Gray, No. 7,
Vinyl-Alkyd (Formula 122-7)
MIL-P-15935 Enamel, Outside, Gray, Vinyl-
Alkyd (Formula 122-11)

Federal Standards

Fed. Std. 141 Paint, Varnish, Lacquer, and Re-
lated Materials; Methods of
Inspection, Sampling and Testing
Fed. Std. 595 Colors, Standard

Other Publications

FAA Obstruction Marking and Lighting
Steel Structures Painting Council Specification
SSPC-SP-3 Pictorial Surface Preparation
Standards for Painting Steel
Structures
SSPC-SP-6 Pictorial Surface Preparation
Standards for Painting Steel
Structures

INDEX

| A | Pages |
|---|---------|
| Acoustical tile | 19 |
| Acrylic emulsion paint | 3 |
| Acrylic mixing liquid | 5 |
| Aluminum-alloy (non-ferrous) surfaces | 8,23 |
| Aluminum paint | 3 |
| Aluminum (non-ferrous) surfaces | 8,23 |
| Antenna shelters, plastic | 24 |
| Anti-mildew additive | 4 |
| Application, paint | 11-13 |
| Areas exposed to industrial fumes | 3 |
| Asbestos cement-board surfaces | 9,19,22 |
| Atmospheric conditions | 11 |
| B | |
| Basic lead silica chromate primer | 6 |
| Blast cleaning | 8 |
| Blistering | 4 |
| Brushes | 12 |
| C | |
| Caulking compound, exposed, exterior surfaces | 23 |
| Ceilings, interior | 19 |
| Cement-board, asbestos | 19 |
| Cement emulsion paint filler | 6,13 |
| Cement, joint | 4 |
| Cement, white, Portland cement aggregate | 5 |
| Cementitious Paint | 13 |
| Clay tile, structural, surfaces | 19,22 |
| Clean-up | 13 |
| Cleaning and preparation of surfaces | 6 |
| Asbestos cement-board surfaces | 9 |
| Combustible surfaces | 10 |
| Concrete and masonry surfaces | 6 |
| Fabric covering | 9 |
| Fabricated and assembled items | 8 |
| Ferrous surfaces | 8 |
| Glazed surfaces | 10 |
| Hardboard (Masonite) surfaces | 9 |
| Mastic type surfaces | 9 |
| Non-ferrous metal surfaces | 8 |
| Plaster surfaces | 9 |
| Wall board | 9 |
| Wood surfaces | 7 |
| Wood floors | 7 |

| C | Pages |
|---|---------------|
| Coating compound, non-slip | 5 |
| Coating progress | 12 |
| Color of undercoat | 12 |
| Color standards | 2 |
| Combustible surfaces | 10 |
| Composition fiberboard | 19 |
| Concrete surfaces | 6,12,19,21,22 |
| Copper surfaces (non-ferrous) | 8,23 |

| D | |
|------------------------------|---|
| Definitions, paint | 1 |

| E | |
|---|--------------|
| Emulsion paint, exterior | 3,13 |
| Emulsion paint, interior | 4,12 |
| Exterior concrete surfaces | 6,12,22 |
| Exterior oil paint | 3 |
| Exterior painting | 8,9,10,11,13 |
| Exterior poured concrete surfaces | 6,13,22 |
| Exterior stain finish | 4 |

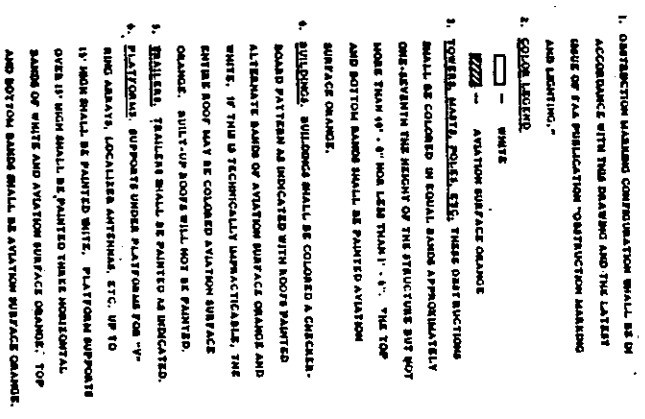
| F | |
|--|------------|
| Fabric covering | 9 |
| Fabricated and assembled items | 8 |
| Ferrous surfaces | 8,18,19,24 |
| Ferrous surfaces, exterior | 8,18,24 |
| Ferrous surfaces, interior | 8,19 |
| Ferrous surfaces of interior water storage tanks | 10,24 |
| Ferrous surfaces subject to: | |
| Atmospheric exposure | 18 |
| High humidity | 18 |
| Fresh water immersion | 18 |
| Salt water spray or immersion | 18 |
| Fiberboard, composition | 19 |
| Fill coat, styrene-acrylate | 3 |
| Filler, cement-emulsion | 5-12 |
| Fire-retardant paints, interior and exterior | 4-10-24 |
| Floors, exterior, wood | 20 |
| Floors, interior, concrete | 21 |
| Floor wax | 4 |
| Food preparation areas, painting of | 20 |
| Food serving areas, painting of | 20 |
| Fume resistant paint | 3 |
| Fungicide, added to paint | 9 |

| G | Pages |
|--|------------------|
| Galvanized (non-ferrous) surfaces | 6,8,23 |
| Glazed surfaces | 10 |
| Glazes, liquid | 4,10,13 |
| Gypsum board | 19 |
| H | |
| Hardboard surfaces | 9,20,22 |
| I | |
| Inspection | 14 |
| Insulation - see fabric covering | |
| Instruments for use by field personnel | 14 |
| Interior concrete surfaces | 19 |
| Interior ferrous surfaces- see ferrous surfaces, interior | |
| Interior emulsion (latex) paint | 4 |
| Interior painting | 7,11,12,13,14,15 |
| Interior walls and ceilings, painting of | 19 |
| Interior wood floors - see Wood floors, interior | |
| Interior wood surfaces - see Wood surfaces, interior | |
| J | |
| Joint cement | 4 |
| K | |
| Knot sealer | 7 |
| Knot, wood | 7 |
| L | |
| Latrine areas, painting of | 19 |
| Laundry areas, painting of | 19 |
| Liquid glazes | 4,13 |
| Livestock, areas exposed to | 3 |
| M | |
| Masonry surfaces | 6,19,22 |
| Mastic type surfaces | 9,21 |
| Metal surfaces | 8-9,12,18,20,23 |
| Methods of application, paint | 11-13 |
| Mildew control additive | 4 |

| M | Pages |
|---|---------|
| Mixing liquids, acrylic and polyvinyl acetate | 5 |
| Moisture content, plaster | 9,15 |
| Moisture content, wood | 7 |
| Moisture measurement, wood | 14 |
| Moisture meter | 14 |
| Moisture meter accuracy | 14 |
| Moisture on surfaces | 11 |
| N | |
| Natural wood finish | 7,13 |
| Nonferrous metal surfaces: | 8,20,23 |
| Aluminum | 23 |
| Aluminum alloy | 23 |
| Copper | 23 |
| Zinc-copper alloy | 23 |
| Zinc-coated (galvanized) | 23 |
| Non-slip coating compound | 5 |
| O | |
| Obstruction marking | 9 |
| Oil paint, exterior | 3 |
| P | |
| Paints | 3-5 |
| Paint: | |
| Application | 11-13 |
| Definitions | 1 |
| Mixing | 11 |
| Properties | 11 |
| Requirements | 2 |
| Storage | 11 |
| Terminology | 1 |
| Thinning | 12 |
| Pictorial surface preparation standards for painting | |
| Steel structures | 8,10 |
| Plaster, moisture content | 15 |
| Plaster surfaces | 9,19,21 |
| Platforms, exterior, wood | 22 |
| Poured concrete surfaces | 6,12,22 |
| Power tool cleaning | 8 |
| Progress, coating | 12 |
| Purpose | 1 |
| Publications List | 25,26 |

| R | Pages |
|---|-------|
| Recoating of paints | 12 |
| Reinforcement tape | 4 |
| Requirements, paint | 1 |
| Rollers | 12 |
| S | |
| Safety measures | 16 |
| Sand blasting. | 8 |
| Scope | 1 |
| Shower areas, painting of | 20 |
| Silicone, water-repellent liquid | 6 |
| Stain, exterior finish | 4 |
| Steel works | 24 |
| Steps, exterior, wood | 22 |
| Storage of paint | 11,16 |
| Storage tanks, water | 24 |
| Stucco surfaces | 22 |
| Styrene-acrylate fill coat | 3 |
| Styrene-acrylate paint | 3 |
| Specifications List | 25,26 |
| T | |
| Tape, reinforcement | 4 |
| Terminology, paint | 1 |
| Testing | 2 |
| Thickness gage | 15 |
| Thinning of paint | 12 |
| Time between surface preparation and painting | 12 |
| Trim, interior | 20 |
| U | |
| Unsound surfaces | 14 |
| V | |
| Vinyl alkyd type paint | 5 |
| Vinyl type primer paint | 4 |
| Vinyl type wash coat | 4,13 |

| | W | Pages |
|---|---|---------|
| Walkways, non-slip | | 24 |
| Wall bases | | 20 |
| Wall board | | 7 |
| Walls, interior | | 19 |
| Wash coat, vinyl type | | 4,13 |
| Water proofness | | 6 |
| Water-repellency | | 6 |
| Water repellent liquid, silicone | | 6 |
| Water storage tanks | | 10,24 |
| Wax, floor | | 4 |
| Wood finishes, natural | | 13 |
| Wood floors, interior | | 13 |
| Wood, moisture content | | 7 |
| Wood surfaces | | 7,13,20 |
| Wood treatment | | 7 |
| | Z | |
| Zinc-coated (non-ferrous) surfaces (galvanized) . . | | 6,8,20 |
| Zinc-copper alloy (non-ferrous) surfaces | | 8,20 |
| Zinc-dust-containing paint | | 4 |



| | | | | |
|----|---------|--------------------|------|---------|
| 1 | NAME | PLUMER AND RIDGWAY | DATE | 10/1/54 |
| 2 | ADDRESS | | DATE | 10/1/54 |
| 3 | ADDRESS | | DATE | 10/1/54 |
| 4 | ADDRESS | | DATE | 10/1/54 |
| 5 | ADDRESS | | DATE | 10/1/54 |
| 6 | ADDRESS | | DATE | 10/1/54 |
| 7 | ADDRESS | | DATE | 10/1/54 |
| 8 | ADDRESS | | DATE | 10/1/54 |
| 9 | ADDRESS | | DATE | 10/1/54 |
| 10 | ADDRESS | | DATE | 10/1/54 |
| 11 | ADDRESS | | DATE | 10/1/54 |
| 12 | ADDRESS | | DATE | 10/1/54 |
| 13 | ADDRESS | | DATE | 10/1/54 |
| 14 | ADDRESS | | DATE | 10/1/54 |
| 15 | ADDRESS | | DATE | 10/1/54 |
| 16 | ADDRESS | | DATE | 10/1/54 |
| 17 | ADDRESS | | DATE | 10/1/54 |
| 18 | ADDRESS | | DATE | 10/1/54 |
| 19 | ADDRESS | | DATE | 10/1/54 |
| 20 | ADDRESS | | DATE | 10/1/54 |
| 21 | ADDRESS | | DATE | 10/1/54 |
| 22 | ADDRESS | | DATE | 10/1/54 |
| 23 | ADDRESS | | DATE | 10/1/54 |
| 24 | ADDRESS | | DATE | 10/1/54 |
| 25 | ADDRESS | | DATE | 10/1/54 |
| 26 | ADDRESS | | DATE | 10/1/54 |
| 27 | ADDRESS | | DATE | 10/1/54 |
| 28 | ADDRESS | | DATE | 10/1/54 |
| 29 | ADDRESS | | DATE | 10/1/54 |
| 30 | ADDRESS | | DATE | 10/1/54 |
| 31 | ADDRESS | | DATE | 10/1/54 |
| 32 | ADDRESS | | DATE | 10/1/54 |
| 33 | ADDRESS | | DATE | 10/1/54 |
| 34 | ADDRESS | | DATE | 10/1/54 |
| 35 | ADDRESS | | DATE | 10/1/54 |
| 36 | ADDRESS | | DATE | 10/1/54 |
| 37 | ADDRESS | | DATE | 10/1/54 |
| 38 | ADDRESS | | DATE | 10/1/54 |
| 39 | ADDRESS | | DATE | 10/1/54 |
| 40 | ADDRESS | | DATE | 10/1/54 |
| 41 | ADDRESS | | DATE | 10/1/54 |
| 42 | ADDRESS | | DATE | 10/1/54 |
| 43 | ADDRESS | | DATE | 10/1/54 |
| 44 | ADDRESS | | DATE | 10/1/54 |
| 45 | ADDRESS | | DATE | 10/1/54 |
| 46 | ADDRESS | | DATE | 10/1/54 |
| 47 | ADDRESS | | DATE | 10/1/54 |
| 48 | ADDRESS | | DATE | 10/1/54 |
| 49 | ADDRESS | | DATE | 10/1/54 |
| 50 | ADDRESS | | DATE | 10/1/54 |
| 51 | ADDRESS | | DATE | 10/1/54 |
| 52 | ADDRESS | | DATE | 10/1/54 |
| 53 | ADDRESS | | DATE | 10/1/54 |
| 54 | ADDRESS | | DATE | 10/1/54 |
| 55 | ADDRESS | | DATE | 10/1/54 |
| 56 | ADDRESS | | DATE | 10/1/54 |
| 57 | ADDRESS | | DATE | 10/1/54 |
| 58 | ADDRESS | | DATE | 10/1/54 |
| 59 | ADDRESS | | DATE | 10/1/54 |
| 60 | ADDRESS | | DATE | 10/1/54 |
| 61 | ADDRESS | | DATE | 10/1/54 |
| 62 | ADDRESS | | DATE | 10/1/54 |
| 63 | ADDRESS | | DATE | 10/1/54 |
| 64 | ADDRESS | | DATE | 10/1/54 |
| 65 | ADDRESS | | DATE | 10/1/54 |
| 66 | ADDRESS | | DATE | 10/1/54 |
| 67 | ADDRESS | | DATE | 10/1/54 |
| 68 | ADDRESS | | DATE | 10/1/54 |
| 69 | ADDRESS | | DATE | 10/1/54 |
| 70 | ADDRESS | | DATE | 10/1/54 |
| 71 | ADDRESS | | DATE | 10/1/54 |
| 72 | ADDRESS | | DATE | 10/1/54 |
| 73 | ADDRESS | | DATE | 10/1/54 |
| 74 | ADDRESS | | DATE | 10/1/54 |
| 75 | ADDRESS | | DATE | 10/1/54 |
| 76 | ADDRESS | | DATE | 10/1/54 |
| 77 | ADDRESS | | DATE | 10/1/54 |
| 78 | ADDRESS | | DATE | 10/1/54 |
| 79 | ADDRESS | | DATE | 10/1/54 |
| 80 | ADDRESS | | DATE | 10/1/54 |
| 81 | ADDRESS | | DATE | 10/1/54 |
| 82 | ADDRESS | | DATE | 10/1/54 |
| 83 | ADDRESS | | DATE | 10/1/54 |
| 84 | ADDRESS | | DATE | 10/1/54 |
| 85 | ADDRESS | | DATE | 10/1/54 |
| 86 | ADDRESS | | DATE | 10/1/54 |
| 87 | ADDRESS | | DATE | 10/1/54 |
| | | | | |



FAA-STD-003
AMENDMENT-1
July 31, 1972

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
STANDARD**

PAINT SYSTEMS FOR STRUCTURES

This amendment forms a part of FAA-STD-003 dated June 11, 1965.

Page 17, paragraph 9.1: Between the first and second sentences, add the following: "except that lead-based paint shall not be used in or on any residential structures intended for human habitation."

* * * * *

